

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 through 55 (Cancelled).

56. (Currently Amended) A method as in claim ~~57~~58 wherein the ultrafiltrate is removed at a rate determined by a mechanical filtrate pump and said method further comprising concentrating the blood by removal of the ultrafiltrate.

57. (Cancelled)

58. (Previously Presented) A method for filtering blood comprising:  
withdrawing blood from an adult patient;  
performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared ( $m^2$ ) to remove ultrafiltrate from the blood, wherein the filter membrane blocks passage of blood molecules having a molecular weight of at least 60,000 Daltons, wherein an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;

infusing the ultrafiltrated blood into the adult patient, and

withdrawing the blood in a range of 10 to 60 milliliters per minute.

59. (Previously Presented) A method for filtering blood comprising:  
withdrawing blood from an adult patient;

performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared ( $m^2$ ) to remove ultrafiltrate from the blood, wherein the filter membrane blocks passage of blood molecules having a molecular weight of at least 60,000 Daltons, wherein an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;

infusing the ultrafiltered blood into the adult patient, and

passing the blood through a blood circuit comprising the filter during a residence time period of no greater than 120 seconds.

60. (Previously Presented) A method as in claim 59 further comprising passing the blood through filter fibers having a length of at least 20 centimeters and wherein said filter fibers are housed in a substantially straight filter housing.

61. (Previously Presented) A method as in claim 59 further comprising passing the blood through a straight bundle of filter fibers having at least 620 fibers.

62. (Previously Presented) A method as in claim 59 wherein said filter further comprises a substantially straight housing having a length of at least 20 cm and an internal diameter of no greater than 1.5 cm.

63. (Previously Presented) A method for filtering blood comprising:  
withdrawing blood from an adult patient;  
performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared ( $m^2$ ) to remove

ultrafiltrate from the blood, wherein the filter membrane blocks passage of blood molecules having a molecular weight of at least 60,000 Daltons, wherein an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;

infusing the ultrafiltered blood into the adult patient, and

a shear rate of blood flowing through the filter of at least 1000 per second at a flow rate of no greater than 40 ml/sec.

64 to 71. (Cancelled)

72 (Currently Amended). A method as in any of claims ~~57-58~~, 59 or 63 wherein the filter membrane blocks passage of blood molecules having a molecular weight of at least 50,000 Daltons.

73 (Currently Amended). A method as in any of claims ~~57-58~~, 59 or 63 wherein the filter membrane blocks passage of blood molecules having a molecular weight of at least 30,000 Daltons.

74 (Currently Amended) A method as in any of claims ~~57-58~~, 59 or 63 wherein the filter membrane blocks passage of blood molecules having a molecular weight of 20,000 Daltons.

75 (Cancelled).

76. (Previously Presented) A method for filtering blood comprising:  
withdrawing blood from an adult patient;

performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared ( $m^2$ ) to remove ultrafiltrate from the blood, wherein the filter membrane inhibits the passage of plasma proteins and an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;

infusing the ultrafiltered blood into the adult patient, and

withdrawing the blood in a range of 10 to 60 milliliters per minute.

77. (Previously Presented) A method for filtering blood comprising:

withdrawing blood from an adult patient;

performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared ( $m^2$ ) to remove ultrafiltrate from the blood, wherein the filter membrane inhibits the passage of plasma proteins and an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;

infusing the ultrafiltered blood into the adult patient, and

passing the blood through a blood circuit comprising the filter during a residence time period of no greater than 120 seconds.

78. (Previously Presented) A method for filtering blood comprising:

withdrawing blood from an adult patient;

performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared ( $m^2$ ) to remove

ultrafiltrate from the blood, wherein the filter membrane inhibits the passage of plasma proteins and an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;

infusing the ultrafiltrated blood into the adult patient, and  
a shear rate of blood flowing through the filter of at least 1000 per second at a flow rate of no greater than 40 ml/sec.